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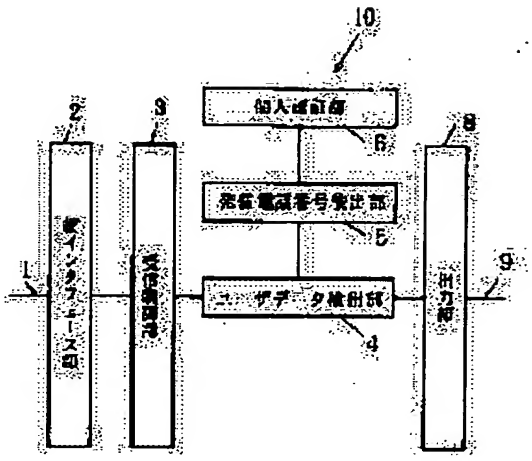
## (54) INTERNET TELEPHONE SYSTEM AND ACCESS POINT DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To allow a user to discriminate whether or not a user is a legal user by detecting a caller telephone number and authenticating the caller itself so as not to manage a user ID and a password by the user.
SOLUTION: A reception control section 3 receives a reception terminal start signal as a connection request via a public telephone line 1 via a network interface section 2 and recognizes it as a telephone line connection request from the user and sends a primary reply signal denoting normal reception of the reception terminal start signal to an exchange of the public telephone line 1. Then the control section 3 receives a dial telephone number signal via the network interface section 25 from the exchange connecting to the public telephone line 1. The dial telephone number signal received by the reception control section 3 is fed to a dial telephone number detection section 5, which extracts only telephone number data and gives the data to a person authentication section 6. The person authentication section 6 collates all user's telephone numbers to be registered with the received telephone number and sends a signal of a person authentication OK to the reception control section 3 when any registration telephone number coincident with the received telephone number is in existence.

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* NOTICES *



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CLAIMS

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[Claim(s)]
[Claim 1] It is the Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. the aforementioned access point equipment The network interface section which is an interface with the telephone line, and the dispatch telephone number detecting element which is sent through the telephone line, detects the dispatch telephone number, and recognizes an addresser's telephone number, the detection result from the aforementioned dispatch telephone number detecting element — a ****** user — the Internet telephone system characterized by having the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet
[Claim 2] The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, The dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, the detection result from the aforementioned dispatch telephone number detecting element — being based — a user — the access point equipment characterized by having the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet
[Claim 3] The individual authentication section is access point equipment according to claim 2 which judges whether the telephone number which compares all the user telephone numbers beforehand registered into the database with the sent dispatch telephone number, and is in agreement with the sent dispatch telephone number exists.

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[Translation done.]

* NOTICES *



## DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] this invention relates to the Internet telephone system and access point equipment which connect a telephone to internet through the telephone line and access point equipment.
[0002]
[Description of the Prior Art] In recent years, the Internet telephone system using internet has been developed. The conventional Internet telephone system is explained below.
[0003] By the common public telephone system, although it will connect with a partner's telephone using the exchange of Nippon Telegraph and Telephone CORP., in an Internet telephone system, it connects with an Internet connectivity contractor's access point (connection point) from a dial up line, it lets internet pass from the access point, and voice data is transmitted to the access point (telephone call partner point access point) where a telephone call partner exists. Voice is sent to a partner point telephone through a dial up line from a telephone call partner point access point. That is, an Internet connectivity contractor's access point equipment will perform the duty of the exchange. And with this Internet connectivity contractor's access point equipment, processing called authentication which discriminates whether you are the user by whom a contract of the partner who has telephoned access point equipment was made is needed.
[0004] Drawing 4 is a block diagram showing the access point equipment in the conventional Internet telephone system, and drawing 5 is a block diagram showing the Internet telephone system using the conventional access point equipment. The network interface section whose 2 1 is a dial up line and is an interface with a dial up line in drawing 4 and the drawing 5 , The reception-control section for 3 controlling a dial up line 1, the user data detecting element from which 4 separates user data and a system data, 6 — a user — the individual authentication section which judges whether it is the telephone connection from him, and the individual authentication data detecting element to which 7 detects individual authentication data — The output section whose 8 is an interface with internet 9, the access point equipment with which 10A consists of a contact 12 and the user ID authentication section 13, and 11 are telephones. The contact 12 of drawing 5 consists of components 2-4, and 7 and 8, and the user ID authentication section 13 consists of the individual authentication section 6.
[0005] The operation is explained about the conventional Internet telephone system constituted as mentioned above.
[0006] First, the telephone (dispatch from a telephone 11) from a user is connected to an Internet connectivity contractor's access point equipment 10A through a dial up line 1. According to the protocol called PPP (Point to Point Protocol), handshaking for data communication is performed after connection. Individual authentication is performed in this data communication handshaking, and the character string which consists of the alphabetic character which is called user ID, and which is assigned for every user, and the character string which consists of the alphabetic character which is called password, and which is assigned for every user are transmitted to the contact 12 of access point equipment 10A as user data from a user (telephone 11). The data received through the network interface section

2 of a contact 12 are inputted into the user data detecting element 4 from the reception-control section 3, it separates into a system data and user data by the user data detecting element 4, and only user data are sent to the individual authentication data detecting element 7. In the individual authentication data detecting element 7, it separates into user ID and a password, and other data, other data are sent to the output section 8, and user ID and a password are sent to the individual authentication section 6. In the individual authentication section 6, a user's user ID and password are database-ized and it judges whether it is with the user ID into which the received user ID and the password were registered, and a password. When the received user ID, the user ID registered with the password, and a password are in agreement, it is judged with it being a just user. When user ID is not registered and user ID and a password are not [ or ] in agreement, it is judged with it not being a just user, and progresses to error processing.

[0007]

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional Internet telephone system, when an Internet telephone system was used from a general home, it had the trouble where a user had to manage the user ID and the password for judging whether you are the user by whom a contract of the partner who has telephoned access point equipment 10A was made.

[0008] In this Internet telephone system, even if a user does not manage user ID and a password, it is required that a telephone user can judge that it is a just user (that is, user who contracted).

[0009] this invention aims at offering the Internet telephone system by which a telephone user can judge that it is a just user, even if a user does not manage user ID and a password.

[0010]

[Means for Solving the Problem] In order to solve this technical probrem the Internet telephone system of this invention It is the Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, the dispatch telephone number detecting element which detects the dispatch telephone number and recognizes an addresser's telephone number, and a user — it has the configuration which has the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet

[0011] Thereby, even if a user does not manage user ID and a password, the Internet telephone system by which a telephone user can judge that it is a just user is obtained.

[0012]

[Embodiments of the Invention] Invention of this invention according to claim 1 is an Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, The dispatch telephone number detecting element which detects the dispatch telephone number and recognizes an addresser's telephone number, Suppose that it has the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet. a user — The decoded dispatch telephone number and a registration user's telephone number are collated, and a telephone user has operation that it is judged whether you are a registration user.

[0013] Hereafter, the gestalt of operation of this invention is explained using drawing 1 - view 3.

(Gestalt 1 of operation) View 1 is the block diagram showing the access point equipment which constitutes the Internet telephone system by the gestalt 1 of operation of this invention, and drawing 2 is a block diagram showing the Internet telephone system by the gestalt of this operation.

[0014] In drawing 2 , since a dial up line 1, the network interface section 2, the reception-control section 3, the user data detecting element 4, the individual authentication section 6, the output section 8, the internet 9, and the telephone 11 are the same as the conventional system of drawing 4 and the drawing 5 , the same sign is attached and an explanation is omitted. 5 is a dispatch telephone number detecting element which detects the dispatch telephone number, and recognizes and judges an addresser's telephone number.
[0015] 10 is access point equipment which consists of a contact 14 and the user ID authentication section 15. Drawing 1 shows access point equipment in detail. As shown in drawing 1 , a contact 14 consists of the network interface section 2, the reception-control section 3, the user data detecting element 4, and the output section 8, and the user ID authentication section 15 consists of the dispatch telephone number detecting element 5 and the individual authentication section 6.
[0016] The function, an operation, etc. are explained about the Internet telephone system constituted as mentioned above.
[0017] First, the reception-control section 3 receives an accepting-station seizure signal through the network interface section 2 as a connection request from the user through a dial up line 1. The reception-control section 3 will be recognized as a dialup demand from a user, if an accepting-station seizure signal is received. The reception-control section 3 transmits the primary-response signal which shows having received the accepting-station seizure signal normally to the exchange (not shown) of a dial up line 1. Letting the network interface section 2 pass from the exchange of a dial up line 1 after primary-response signal sending, the reception-control section 3 receives a dispatch telephone number signal. The dispatch telephone number signal delivered from the exchange is a MODEM signal based on ITU-T recommendation V.23. The reception-control section 3 transmits the completion signal of a reception which shows that the reception of the dispatch telephone number was completed. The call signal which tells that there is arrival of the mail from the exchange to a contact 14 is received after the completion signal sending of a reception. The reception-control section 3 transmits the secondary-response signal which shows that the contact 14 answered.
[0018] Hereafter, it becomes the same sequence as the conventional general arrival. In addition, the conventional arrival-of-the-mail operation is performed, without carrying out a primary response, when signals other than an accepting-station seizure signal are received.
[0019] The dispatch telephone number signal received in the reception-control section 3 is sent to the dispatch telephone number detecting element 5. Only telephone number data are taken out and the sent dispatch telephone number signal is delivered to the individual authentication section 6. In the individual authentication section 6, all the user (contract user) telephone numbers beforehand registered into the database with the sent dispatch telephone number are collated. If the registration telephone number which is in agreement with the dispatch telephone number exists, the signal of individual authentication O.K. will be sent to the reception-control section 3 from the individual authentication section 6. When judged with a just user in the individual authentication section 6, only user data are henceforth transmitted to internet 9 by the reception-control section 3 through the output section 8. On the other hand, if all the telephone numbers and the dispatch telephone number which are registered are not in agreement, it will progress to error processing.
[0020] Moreover, when the signal which cannot know the signal or the dispatch telephone number which does not notify the dispatch telephone number is received from the exchange of a public line 1, it progresses to error processing similarly. In error processing, the reception-control section 3 delivers an error signal on a dial up line 1 through the network interface section 2, and clears handshaking.
[0021] Drawing 3 is a flow chart which shows an operation of the access point equipment 10 of drawing 1 . An operation of the access point equipment 10 is hereafter explained using drawing 3 .
[0022] After an initialization of a contact 14 is completed, the reception-control section 3 shifts to the executive state of the network interface section 2 (S1). It judges whether in this executive state, the reception-control section 3 received the accepting-station seizure signal

or the call signal (S2). When it judges with having received the accepting-station seizure signal, a primary-response signal is transmitted through the network interface section 2 within fixed time to the exchange of a dial up line 1 (S3). Then, the reception-control section 3 receives the dispatch telephone number signal (modem signal) by predetermined format within fixed time from the exchange of a dial up line 1 (S4).
[0023] Next, it judges whether the reception-control section 3 received the dispatch telephone number signal normally (S5). (existence of the dispatch telephone number) When it receives normally, the completion signal of dispatch is transmitted to the exchange of a dial up line 1 through the network interface section 2. The dispatch telephone number signal received in the reception-control section 3 is sent to the dispatch telephone number detecting element 5, only telephone number data are taken out from a predetermined format, and the sent dispatch telephone number signal is outputted to the individual authentication section 6.
[0024] In the individual authentication section 6, all the user (contract user) telephone numbers beforehand registered into the database with the sent dispatch telephone number are compared (S6), and it judges whether the registration telephone number which is in agreement with the dispatch telephone number exists (S7). When it judges with the registration telephone number which is in agreement with the dispatch telephone number existing, after receiving a call signal (S8), it judges whether there was any accepting-station seizure signal (S9). When it judges with there having been an accepting-station seizure signal, a secondary-response [ (it is judged with there having been an accepting-station seizure signal here since it has judged with having received the accepting-station seizure signal at step 2) ] signal is transmitted (S10), it becomes under a telephone call (S11), and only user data are transmitted to internet 9 by the reception-control section 3 through the output section 8.
[0025] When it judges with the dispatch telephone number not existing at step 5, the error signal which shows that the dispatch telephone number was not notified on the dial up line 1 is delivered (S12), and an identification procedure is cleared (S13).
[0026] When it judges with there being no registration telephone number which is in agreement with the dispatch telephone number at step 7, the error signal which shows a registration telephone number inequality on a dial up line 1 is delivered (S14), and handshaking is cleared (S13).
[0027] Since individual authentication cannot be performed when it judges with there having been no accepting-station seizure signal at step 9, error processing is performed, it displays that it was an error (S15), and handshaking is cleared (S13).
[0028] When it judges whether there was any accepting-station seizure signal when it judged with having received the call signal at step 2 and (S9) accepting-station seizure signal is judged as there having been nothing, error processing is performed (S15) and handshaking is cleared (S13). When it judges with there having been an accepting-station seizure signal, a secondary-response signal is transmitted (S10) and it becomes under a telephone call (S11).
[0029] In addition, although the example constituted from a dial up line 1 usually connected in code explained the medium which connects between an Internet connectivity contractor's access point equipment 10, and the terminals (telephone) 11 with the gestalt of this operation, other topologies can also be carried out, and even if it uses a portable telephone and PHS (Personal Handyphone System) as a terminal, it can carry out.
[0030] According to the gestalt of this operation, collating with the dispatch telephone number decoded and detected by the dispatch telephone number detecting element 5 and a registration user's telephone number (registration telephone number) is performed in the individual authentication section 6 as mentioned above. Since it was made to shift to a telephone call when the registration telephone number which is in agreement with the detected dispatch telephone number existed, even if a user does not manage user ID and a password, a telephone user can judge that it is a just user in the individual authentication section 6.
[0031]

[Effect of the Invention] According to the Internet telephone system of this invention, as mentioned above access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, the dispatch telephone number detecting element which detects the dispatch telephone number and recognizes an addresser's telephone number, and a user — by having the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet Since it can judge whether the registration telephone number which performs collating with the dispatch telephone number and the registration telephone number which were detected, and is in agreement with the detected dispatch telephone number exists Even if a user does not manage user ID and a password, the advantageous effect that it can judge whether the just user sent is acquired.

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## TECHNICAL FIELD

[The technical field to which invention belongs] this invention relates to the Internet telephone system and access point equipment which connect a telephone to internet through the telephone line and access point equipment.

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## PRIOR ART

[Description of the Prior Art] In recent years, the Internet telephone system using internet has been developed. The conventional Internet telephone system is explained below.
[0003] By the common public telephone system, although it will connect with a partner's telephone using the exchange of Nippon Telegraph and Telephone CORP., in an Internet telephone system, it connects with an internet connectivity contractor's access point (connection point) from a dial up line, it lets internet pass from the access point, and voice data is transmitted to the access point (telephone call partner point access point) where a telephone call partner exists. Voice is sent to a partner point telephone through a dial up line from a telephone call partner point access point. That is, an Internet connectivity contractor's access point equipment will perform the duty of the exchange. And with this Internet connectivity contractor's access point equipment, processing called authentication which discriminates whether you are the user by whom a contract of the partner who has telephoned access point equipment was made is needed.
[0004] Drawing 4 is a block diagram showing the access point equipment in the conventional Internet telephone system, and drawing 5 is a block diagram showing the Internet telephone system using the conventional access point equipment. The network interface section whose 2 1 is a dial up line and is an interface with a dial up line in drawing 4 and the drawing 5 , The reception-control section for 3 controlling a dial up line 1, the user data detecting element from which 4 separates user data and a system data, 6 — a user — the individual authentication section which judges whether it is the telephone connection from him, and the individual authentication data detecting element to which 7 detects individual authentication data — The output section whose 8 is an interface with internet 9, the access point equipment with which 10A consists of a contact 12 and the user ID authentication section 13, and 11 are telephones. The contact 12 of drawing 5 consists of components 2-4, and 7 and 8, and the user ID authentication section 13 consists of the individual authentication section 6.
[0005] The operation is explained about the conventional Internet telephone system constituted as mentioned above.
[0006] First, the telephone (dispatch from a telephone 11) from a user is connected to an Internet connectivity contractor's access point equipment 10A through a dial up line 1. According to the protocol called PPP (Point to Point Protocol), handshaking for data communication is performed after connection. Individual authentication is performed in this data communication handshaking, and the character string which consists of the alphabetic character which is called user ID, and which is assigned for every user, and the character string which consists of the alphabetic character which is called password, and which is assigned for every user are transmitted to the contact 12 of access point equipment 10A as user data from a user (telephone 11). The data received through the network interface section 2 of a contact 12 are inputted into the user data detecting element 4 from the reception-control section 3, it separates into a system data and user data by the user data detecting element 4, and only user data are sent to the individual authentication data detecting element 7. In the individual authentication data detecting element 7, it separates into user ID and a password, and other data, other data are sent to the output section 8, and user ID and a password are sent to the individual authentication section 6. In the individual authentication

section 6, a user's user ID and password are database-ized and it judges whether it is with the user ID into which the received user ID and the password were registered, and a password. When the received user ID, the user ID registered with the password, and a password are in agreement, it is judged with it being a just user. When user ID is not registered and user ID and a password are not [ or ] in agreement, it is judged with it not being a just user, and progresses to error processing.

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## EFFECT OF THE INVENTION

[Effect of the Invention] According to the Internet telephone system of this invention, as mentioned above access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, the dispatch telephone number detecting element which detects the dispatch telephone number and recognizes an addresser's telephone number, and a user — by having the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet Since it can judge whether the registration telephone number which performs collating with the dispatch telephone number and the registration telephone number which were detected, and is in agreement with the detected dispatch telephone number exists Even if a user does not manage user ID and a password, the advantageous effect that it can judge whether the just user sent is acquired.

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## TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional Internet telephone system, when an Internet telephone system was used from a general home, it had the trouble where a user had to manage the user ID and the password for judging whether you are the user by whom a contract of the partner who has telephoned access point equipment 10A was made.
[0008] In this Internet telephone system, even if a user does not manage user ID and a password, it is required that a telephone user can judge that it is a just user (that is, user who contracted).
[0009] this invention aims at offering the Internet telephone system by which a telephone user can judge that it is a just user, even if a user does not manage user ID and a password.

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## MEANS

[Means for Solving the Problem] In order to solve this technical probrem the Internet telephone system of this invention It is the Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, the dispatch telephone number detecting element which detects the dispatch telephone number and recognizes an addresser's telephone number, and a user — it has the configuration which has the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet

[0011] Thereby, even if a user does not manage user ID and a password, the Internet telephone system by which a telephone user can judge that it is a just user is obtained.

[0012]

[Embodiments of the Invention] Invention of this invention according to claim 1 is an Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, The dispatch telephone number detecting element which detects the dispatch telephone number and recognizes an addresser's telephone number, Suppose that it has the individual authentication section which judges whether it is the telephone connection from him, and the output section which is an interface with internet. a user — The decoded dispatch telephone number and a registration user's telephone number are collated, and a telephone user has operation that it is judged whether you are a registration user.

[0013] Hereafter, the gestalt of operation of this invention is explained using drawing 1 - view 3 .

(Gestalt 1 of operation) View 1 is the block diagram showing the access point equipment which constitutes the Internet telephone system by the gestalt 1 of operation of this invention, and drawing 2 is a block diagram showing the Internet telephone system by the gestalt of this operation.

[0014] In drawing 2 , since a dial up line 1, the network interface section 2, the reception-control section 3, the user data detecting element 4, the individual authentication section 6, the output section 8, the internet 9, and the telephone 11 are the same as the conventional system of drawing 4 and the drawing 5 , the same sign is attached and an explanation is omitted. 5 is a dispatch telephone number detecting element which detects the dispatch telephone number, and recognizes and judges an addresser's telephone number.

[0015] 10 is access point equipment which consists of a contact 14 and the user ID authentication section 15. Drawing 1 shows access point equipment in detail. As shown in drawing 1 , a contact 14 consists of the network interface section 2, the reception-control section 3, the user data detecting element 4, and the output section 8, and the user ID authentication section 15 consists of the dispatch telephone number detecting element 5 and the individual authentication section 6.

[0016] The function, an operation, etc. are explained about the Internet telephone system constituted as mentioned above.
[0017] First, the reception-control section 3 receives an accepting-station seizure signal through the network interface section 2 as a connection request from the user through a dial up line 1. The reception-control section 3 will be recognized as a dialup demand from a user, if an accepting-station seizure signal is received. The reception-control section 3 transmits the primary-response signal which shows having received the accepting-station seizure signal normally to the exchange (not shown) of a dial up line 1. Letting the network interface section 2 pass from the exchange of a dial up line 1 after primary-response signal sending, the reception-control section 3 receives a dispatch telephone number signal. The dispatch telephone number signal delivered from the exchange is a MODEM signal based on ITU-T recommendation V.23. The reception-control section 3 transmits the completion signal of a reception which shows that the reception of the dispatch telephone number was completed. The call signal which tells that there is arrival of the mail from the exchange to a contact 14 is received after the completion signal sending of a reception. The reception-control section 3 transmits the secondary-response signal which shows that the contact 14 answered.
[0018] Hereafter, it becomes the same sequence as the conventional general arrival. In addition, the conventional arrival-of-the-mail operation is performed, without carrying out a primary response, when signals other than an accepting-station seizure signal are received.
[0019] The dispatch telephone number signal received in the reception-control section 3 is sent to the dispatch telephone number detecting element 5. Only telephone number data are taken out and the sent dispatch telephone number signal is delivered to the individual authentication section 6. In the individual authentication section 6, all the user (contract user) telephone numbers beforehand registered into the database with the sent dispatch telephone number are collated. If the registration telephone number which is in agreement with the dispatch telephone number exists, the signal of individual authentication O.K. will be sent to the reception-control section 3 from the individual authentication section 6. When judged with a just user in the individual authentication section 6, only user data are henceforth transmitted to internet 9 by the reception-control section 3 through the output section 8. On the other hand, if all the telephone numbers and the dispatch telephone number which are registered are not in agreement, it will progress to error processing.
[0020] Moreover, when the signal which cannot know the signal or the dispatch telephone number which does not notify the dispatch telephone number is received from the exchange of a public line 1, it progresses to error processing similarly. In error processing, the reception-control section 3 delivers an error signal on a dial up line 1 through the network interface section 2, and clears handshaking.
[0021] Drawing 3 is a flow chart which shows an operation of the access point equipment 10 of drawing 1 . An operation of the access point equipment 10 is hereafter explained using drawing 3 .
[0022] After an initialization of a contact 14 is completed, the reception-control section 3 shifts to the executive state of the network interface section 2 (S1). It judges whether in this executive state, the reception-control section 3 received the accepting-station seizure signal or the call signal (S2). When it judges with having received the accepting-station seizure signal, a primary-response signal is transmitted through the network interface section 2 within fixed time to the exchange of a dial up line 1 (S3). Then, the reception-control section 3 receives the dispatch telephone number signal (modem signal) by predetermined format within fixed time from the exchange of a dial up line 1 (S4).
[0023] Next, it judges whether the reception-control section 3 received the dispatch telephone number signal normally (S5). (existence of the dispatch telephone number) When it receives normally, the completion signal of dispatch is transmitted to the exchange of a dial up line 1 through the network interface section 2. The dispatch telephone number signal received in the reception-control section 3 is sent to the dispatch telephone number detecting element 5, only telephone number data are taken out from a predetermined format, and the sent dispatch telephone number signal is outputted to the individual authentication

section 6.
[0024] In the individual authentication section 6, all the user (contract user) telephone numbers beforehand registered into the database with the sent dispatch telephone number are compared (S6), and it judges whether the registration telephone number which is in agreement with the dispatch telephone number exists (S7). When it judges with the registration telephone number which is in agreement with the dispatch telephone number existing, after receiving a call signal (S8), it judges whether there was any accepting-station seizure signal (S9). When it judges with there having been an accepting-station seizure signal, a secondary-response [ (it is judged with there having been an accepting-station seizure signal here since it has judged with having received the accepting-station seizure signal at step 2) ] signal is transmitted (S10), it becomes under a telephone call (S11), and only user data are transmitted to internet 9 by the reception-control section 3 through the output section 8.
[0025] When it judges with the dispatch telephone number not existing at step 5, the error signal which shows that the dispatch telephone number was not notified on the dial up line 1 is delivered (S12), and an identification procedure is cleared (S13).
[0026] When it judges with there being no registration telephone number which is in agreement with the dispatch telephone number at step 7, the error signal which shows a registration telephone number inequality on a dial up line 1 is delivered (S14), and handshaking is cleared (S13).
[0027] Since individual authentication cannot be performed when it judges with there having been no accepting-station seizure signal at step 9, error processing is performed, it displays that it was an error (S15), and handshaking is cleared (S13).
[0028] When it judges whether there was any accepting-station seizure signal when it judged with having received the call signal at step 2 and (S9) accepting-station seizure signal is judged as there having been nothing, error processing is performed (S15) and handshaking is cleared (S13). When it judges with there having been an accepting-station seizure signal, a secondary-response signal is transmitted (S10) and it becomes under a telephone call (S11).
[0029] In addition, although the example constituted from a dial up line 1 usually connected in code explained the medium which connects between an Internet connectivity contractor's access point equipment 10, and the terminals (telephone) 11 with the gestalt of this operation, other topologies can also be carried out, and even if it uses a portable telephone and PHS (Personal Handyphone System) as a terminal, it can carry out.
[0030] According to the gestalt of this operation, collating with the dispatch telephone number decoded and detected by the dispatch telephone number detecting element 5 and a registration user's telephone number (registration telephone number) is performed in the individual authentication section 6 as mentioned above. Since it was made to shift to a telephone call when the registration telephone number which is in agreement with the detected dispatch telephone number existed, even if a user does not manage user ID and a password, a telephone user can judge that it is a just user in the individual authentication section 6.

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[Translation done.]

* NOTICES *



1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

## DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The block diagram showing the access point equipment which constitutes the Internet telephone system by the gestalt 1 of operation of this invention
[Drawing 2] The block diagram showing the Internet telephone system by the gestalt 1 of operation of this invention
[Drawing 3] The flow chart which shows an operation of the access point equipment of drawing 1
[Drawing 4] The block diagram showing the access point equipment in the conventional Internet telephone system
[Drawing 5] The block diagram showing the Internet telephone system using the conventional access point equipment
[Description of Notations]
1 Dial Up Line
2 Network Interface Section
3 Reception-Control Section
4 User Data Detecting Element
5 Dispatch Telephone Number Detecting Element
6 Individual Authentication Section
8 Output Section
9 Internet
10 Access Point Equipment
11 Telephone
14 Contact
15 User ID Authentication Section

[Translation done.]

* NOTICES *



CORRECTION or AMENDMENT

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[FL]

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[Method of Amendment] Change
[Proposed Amendment]
[Claim(s)]
[Claim 1] It is the Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. the aforementioned access point equipment The network interface section which is an interface with the telephone line, and the dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, The Internet telephone system characterized by having the individual authentication section which judges whether it is the telephone number into which the dispatch telephone number was registered based on the detection result from the aforementioned dispatch telephone number detecting element, and the output section which is an interface with internet.
[Claim 2] the aforementioned individual authentication section — a user — the Internet telephone system according to claim 1 characterized by being controlled to make connection

with internet only when it attests with it being the telephone connection from him
[Claim 3] The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, The dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, Access point equipment characterized by having the individual authentication section which judges whether it is the telephone number into which the dispatch telephone number was registered based on the detection result from the aforementioned dispatch telephone number detecting element, and the output section which is an interface with internet.
[Claim 4] the aforementioned individual authentication section — a user — the access point equipment according to claim 3 characterized by controlling to make connection with internet through the aforementioned output section only when it attests with it being the telephone connection from him
[Claim 5] The individual authentication section is access point equipment according to claim 3 which judges whether the telephone number which compares all the user telephone numbers beforehand registered into the database with the sent dispatch telephone number, and is in agreement with the sent dispatch telephone number exists.
[Claim 6] It is the Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. the aforementioned access point equipment The network interface section which is an interface with the telephone line, and the dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, The authentication section which judges whether it is the telephone number into which the dispatch telephone number was registered based on the detection result from the aforementioned dispatch telephone number detecting element, The Internet telephone system characterized by being controlled to continue a communication only when it attests with the telephone number which had the dispatch telephone number which has the output section which is an interface with internet, and the aforementioned authentication section received registered.
[Claim 7] The network interface section which is an interface with the telephone line, and the dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, The authentication section which judges whether it is the telephone number into which the dispatch telephone number was registered based on the detection result from the aforementioned dispatch telephone number detecting element, When it has the output section which is an interface with internet and call origination occurs from the aforementioned telephone line Access point equipment for Internet telephones characterized by having the control section controlled to continue a communication only when it attests with the telephone number which had the dispatch telephone number which the aforementioned authentication section received registered.
[Procedure correction 2]
[Document to be Amended] Specification
[Item(s) to be Amended] 0010
[Method of Amendment] Change
[Proposed Amendment]
[0010]
[Means for Solving the Problem] In order to solve this technical probrem the Internet telephone system of this invention It is the Internet telephone system which connects a telephone to internet through the telephone line and access point equipment. the aforementioned access point equipment The network interface section which is an interface with the telephone line, and the dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, It has the configuration which has the individual authentication section

which judges whether it is the telephone number into which the dispatch telephone number was registered based on the detection result from the aforementioned dispatch telephone number detecting element, and the output section which is an interface with internet.
[Procedure correction 3]
[Document to be Amended] Specification
[Item(s) to be Amended] 0031
[Method of Amendment] Change
[Proposed Amendment]
[0031]
[Effect of the Invention] According to the Internet telephone system of this invention, as mentioned above access point equipment The network interface section which is an interface with the telephone line, and the reception-control section for controlling the telephone line, The user data detecting element which separates user data and a system data, The dispatch telephone number detecting element which detects the dispatch telephone number sent through the telephone line, and recognizes an addresser's telephone number, By having the individual authentication section which judges whether it is the telephone number into which the dispatch telephone number was registered based on the detection result from the aforementioned dispatch telephone number detecting element, and the output section which is an interface with internet Since it can judge whether the registration telephone number which performs collating with the dispatch telephone number and the registration telephone number which were detected, and is in agreement with the detected dispatch telephone number exists Even if a user does not manage user ID and a password, the advantageous effect that it can judge whether the just user sent is acquired.

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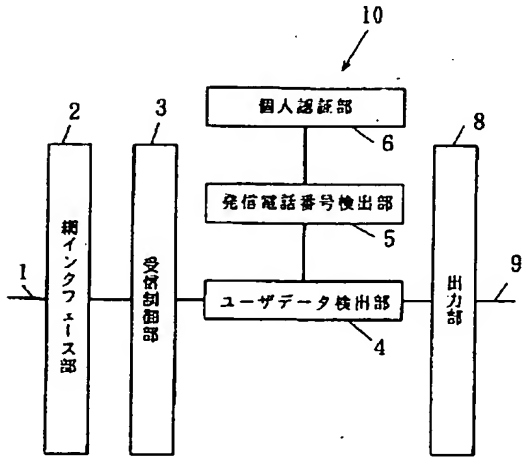
(54)【発明の名称】　インターネット電話システムおよびアクセスポイント装置

(57)【要約】

【課題】　ユーザＩＤ、パスワードを利用者が管理しなくても、電話利用者が正当な利用者か否かの判定を行うことができるインターネット電話システムを提供することを目的とする。

【解決手段】　電話機を電話回線１、アクセスポイント装置１０を介してインターネットへ接続するインターネット電話システムであって、アクセスポイント装置は、電話回線とのインタフェースである網インタフェース部２と、電話回線を制御するための受信制御部３と、ユーザデータとシステムデータとを分離するユーザデータ検出部４と、発信電話番号を検出して発信者の電話番号を認識する発信電話番号検出部５と、利用者本人からの電話接続であるか否かを判定する個人認証部６と、インターネット９とのインタフェースである出力部８とを有する。




1　公衆電話回線
9　インターネット
10　アクセスポイント装置

【特許請求の範囲】
【請求項１】電話機を電話回線、アクセスポイント装置を介してインターネットへ接続するインターネット電話システムであって、前記アクセスポイント装置は、電話回線とのインタフェースである網インタフェース部と、電話回線を介して送られ発信電話番号を検出して発信者の電話番号を認識する発信電話番号検出部と、前記発信電話番号検出部からの検出結果に基づい利用者本人からの電話接続であるか否かを判定する個人認証部と、インターネットとのインタフェースである出力部とを有することを特徴とするインターネット電話システム。
【請求項２】電話回線とのインタフェースである網インタフェース部と、電話回線を制御するための受信制御部と、ユーザデータとシステムデータとを分離するユーザデータ検出部と、電話回線を介して送られる発信電話番号を検出して発信者の電話番号を認識する発信電話番号検出部と、前記発信電話番号検出部からの検出結果に基づいて利用者本人からの電話接続であるか否かを判定する個人認証部と、インターネットとのインタフェースである出力部とを有することを特徴とするアクセスポイント装置。
【請求項３】個人認証部は送られて来た発信電話番号と予めデータベースに登録されているすべての利用者電話番号とを比較し、送られて来た発信電話番号と一致する電話番号が存在するか否かを判定する請求項２記載のアクセスポイント装置。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は、電話機を電話回線、アクセスポイント装置を介してインターネットへ接続するインターネット電話システムおよびアクセスポイント装置に関する。
【０００２】
【従来の技術】近年、インターネットを利用したインターネット電話システムが開発されてきている。従来のインターネット電話システムについて以下説明する。
【０００３】一般の公衆電話システムでは、日本電信電話株式会社の交換機を利用して相手の電話機と接続することになるが、インターネット電話システムでは、公衆電話回線からインターネット接続業者のアクセスポイント（接続地点）へ接続し、そのアクセスポイントからインターネットを通して、通話相手の存在するアクセスポイント（通話相手先アクセスポイント）へ音声データを送信する。通話相手先アクセスポイントから公衆電話回線を通じて相手先電話機へ音声を送る。すなわち、交換機の役目をインターネット接続業者のアクセスポイント装置が行うことになる。そして、このインターネット接続業者のアクセスポイント装置では、アクセスポイント装置に電話して来た相手が契約された利用者か否かを識別する認証と呼ばれる処理が必要となる。
【０００４】図４は従来のインターネット電話システムにおけるアクセスポイント装置を示すブロック図であり、図５は従来のアクセスポイント装置を用いたインターネット電話システムを示す構成図である。図４、図５において、１は公衆電話回線、２は公衆電話回線とのインタフェースである網インタフェース部、３は公衆電話回線１を制御するための受信制御部、４はユーザデータとシステムデータとを分離するユーザデータ検出部、６は利用者本人からの電話接続か否かを判定する個人認証部、７は個人認証データを検出する個人認証データ検出部、８はインターネット９とのインタフェースである出力部、１０Ａは接続装置１２とユーザＩＤ認証部１３とから成るアクセスポイント装置、１１は電話機である。図５の接続装置１２は構成要素２～４、７、８から成り、ユーザＩＤ認証部１３は個人認証部６から成る。
【０００５】以上のように構成された従来のインターネット電話システムについて、その動作を説明する。
【０００６】まず、利用者からの電話（電話機１１からの発信）は公衆電話回線１を通じてインターネット接続業者のアクセスポイント装置１０Ａへ接続される。接続後、ＰＰＰ（Point to Point Protocol)と呼ばれる通信規約に従い、データ通信のための接続手順が行われる。個人認証は、このデータ通信接続手順のなかで行われ、ユーザＩＤと呼ばれる各利用者毎に割り振られる英数字からなる文字列と、パスワードと呼ばれる各利用者毎に割り振られる英数字からなる文字列とが、利用者（電話機１１）からアクセスポイント装置１０Ａの接続装置１２へユーザデータとして送信される。接続装置１２の網インタフェース部２を通して受信されるデータは、受信制御部３からユーザデータ検出部４に入力され、ユーザデータ検出部４でシステムデータとユーザデータとに分離され、ユーザデータのみが個人認証データ検出部７へ送られる。個人認証データ検出部７では、ユーザＩＤおよびパスワードとその他のデータとに分離され、その他のデータは出力部８へ送られ、ユーザＩＤとパスワードは個人認証部６へ送られる。個人認証部６では、利用者のユーザＩＤとパスワードとがデータベース化されており、受け取ったユーザＩＤとパスワードとが登録されたユーザＩＤとパスワードとであるか否かを判定する。受け取ったユーザＩＤ、パスワードと登録されたユーザＩＤ、パスワードとが一致したときは、正当な利用者であると判定される。もし、ユーザＩＤが登録されていないものであるか、あるいはユーザＩＤ、パスワードが一致しないときは、正当な利用者でないと判定され、エラー処理へと進む。
【０００７】
【発明が解決しようとする課題】しかしながら、上記従来のインターネット電話システムでは、一般家庭からインターネット電話システムを使用する場合、アクセスポイント装置１０Ａに電話して来た相手が契約された利用

者か否かを判定するためのユーザＩＤとパスワードを利用者が管理しなければならないという問題点を有していた。

【０００８】このインターネット電話システムでは、ユーザＩＤ、パスワードを利用者が管理しなくても、電話利用者が正当な利用者（つまり契約した利用者）か否かの判定を行うことができることが要求されている。

【０００９】本発明は、ユーザＩＤ、パスワードを利用者が管理しなくても、電話利用者が正当な利用者か否かの判定を行うことができるインターネット電話システムを提供することを目的とする。

【００１０】

【課題を解決するための手段】この課題を解決するために本発明のインターネット電話システムは、電話機を電話回線、アクセスポイント装置を介してインターネットへ接続するインターネット電話システムであって、アクセスポイント装置は、電話回線とのインタフェースである網インタフェース部と、電話回線を制御するための受信制御部と、ユーザデータとシステムデータとを分離するユーザデータ検出部と、発信電話番号を検出して発信者の電話番号を認識する発信電話番号検出部と、利用者本人からの電話接続であるか否かを判定する個人認証部と、インターネットとのインタフェースである出力部とを有する構成を備えている。

【００１１】これにより、ユーザＩＤ、パスワードを利用者が管理しなくても、電話利用者が正当な利用者か否かの判定を行うことができるインターネット電話システムが得られる。

【００１２】

【発明の実施の形態】本発明の請求項１に記載の発明は、電話機を電話回線、アクセスポイント装置を介してインターネットへ接続するインターネット電話システムであって、アクセスポイント装置は、電話回線とのインタフェースである網インタフェース部と、電話回線を制御するための受信制御部と、ユーザデータとシステムデータとを分離するユーザデータ検出部と、発信電話番号を検出して発信者の電話番号を認識する発信電話番号検出部と、利用者本人からの電話接続であるか否かを判定する個人認証部と、インターネットとのインタフェースである出力部とを有することとしたものであり、解読された発信電話番号と登録利用者の電話番号とが照合され、電話利用者が登録利用者か否かが判定されるという作用を有する。

【００１３】以下、本発明の実施の形態について、図１～図３を用いて説明する。

（実施の形態１）図１は本発明の実施の形態１によるインターネット電話システムを構成するアクセスポイント装置を示すブロック図であり、図２は本実施の形態によるインターネット電話システムを示す構成図である。

【００１４】図２において、公衆電話回線１、網インタフェース部２、受信制御部３、ユーザデータ検出部４、個人認証部６、出力部８、インターネット９、電話機１１は図４、図５の従来システムと同様のものなので、同一符号を付し、説明は省略する。５は発信電話番号を検出して発信者の電話番号を認識し判定する発信電話番号検出部である。

【００１５】１０は接続装置１４とユーザＩＤ認証部１５とから成るアクセスポイント装置である。図１はアクセスポイント装置を詳細に示す。図１に示すように、接続装置１４は網インタフェース部２と受信制御部３とユーザデータ検出部４と出力部８とから成り、ユーザＩＤ認証部１５は発信電話番号検出部５と個人認証部６とから成る。

【００１６】以上のように構成されたインターネット電話システムについて、その機能、動作等を説明する。

【００１７】まず、公衆電話回線１を介する利用者からの接続要求として受信端末起動信号を網インタフェース部２を通して受信制御部３が受信する。受信制御部３は、受信端末起動信号を受信すると、利用者からの電話回線接続要求として認識する。公衆電話回線１の交換機（図示せず）に対して受信制御部３は受信端末起動信号を正常に受信したことを示す一次応答信号を送信する。一次応答信号送信後、公衆電話回線１の交換機から網インタフェース部２を通して、受信制御部３は、発信電話番号信号を受信する。交換機から送出される発信電話番号信号は、ＩＴＵ－Ｔ勧告Ｖ．２３に準拠したＭＯＤＥＭ信号である。受信制御部３は、発信電話番号の受信が終了したことを示す受信完了信号を送信する。受信完了信号送信後、交換機から接続装置１４へ着信があることを伝える呼出信号を受信する。受信制御部３は、接続装置１４が応答したことを示す二次応答信号を送信する。

【００１８】以下、従来の一般着信と同様なシーケンスとなる。なお、受信端末起動信号以外の信号を受信した場合は一次応答することなく、従来の着信動作を行う。

【００１９】受信制御部３で受信した発信電話番号信号は発信電話番号検出部５へ送られる。送られた発信電話番号信号は電話番号データのみが取り出され、個人認証部６へと送出される。個人認証部６では、送られて来た発信電話番号と予めデータベースに登録されているすべての利用者（契約利用者）電話番号とを照合する。発信電話番号と一致する登録電話番号が存在するならば、個人認証部６から受信制御部３へ個人認証ＯＫの信号を送る。個人認証部６で正当な利用者と判定された場合は以後、受信制御部３により、ユーザデータのみが出力部８を通してインターネット９へ送信される。一方、登録されているすべての電話番号と発信電話番号とが一致しないなら、エラー処理へ進む。

【００２０】また、公衆回線１の交換機から発信電話番号を通知しない信号または発信電話番号を知ることができない信号を受け取ったときも同様にエラー処理へ進

む。エラー処理では、受信制御部３が網インタフェース部２を通して公衆電話回線１上にエラー信号を送出し、接続手順をクリアする。

【００２１】図３は図１のアクセスポイント装置１０の動作を示すフローチャートである。図３を用いて以下、アクセスポイント装置１０の動作について説明する。

【００２２】接続装置１４の初期化が終了すると、受信制御部３は、網インタフェース部２の監視状態へ移行する（Ｓ１）。この監視状態にて、受信制御部３は受信端末起動信号または呼出信号を受信したか否かを判定する（Ｓ２）。受信端末起動信号を受信したと判定したときは一定時間内に一次応答信号を網インタフェース部２を通して公衆電話回線１の交換機へ送信する（Ｓ３）。すると受信制御部３は公衆電話回線１の交換機から一定時間内に所定のフォーマットによる発信電話番号信号（モデム信号）を受信する（Ｓ４）。

【００２３】次に、受信制御部３は、発信電話番号信号を正常に受信したか否か（発信電話番号の有無）を判定する（Ｓ５）。正常に受信した場合には発信完了信号を網インタフェース部２を通して公衆電話回線１の交換機へ送信する。受信制御部３で受信した発信電話番号信号は発信電話番号検出部５に送られ、送られた発信電話番号信号は所定のフォーマットから電話番号データのみが取り出され、個人認証部６へと出力される。

【００２４】個人認証部６では、送られて来た発信電話番号と予めデータベースに登録されているすべての利用者（契約利用者）電話番号とを比較し（Ｓ６）、発信電話番号と一致する登録電話番号が存在するか否かを判定する（Ｓ７）。発信電話番号と一致する登録電話番号が存在すると判定した場合、呼出信号を受信した後（Ｓ８）、受信端末起動信号があったか否かを判定する（Ｓ９）。受信端末起動信号があったと判定したときには（ここでは、ステップ２で受信端末起動信号を受信したと判定しているので、受信端末起動信号があったと判定される）、二次応答信号を送信し（Ｓ１０）、通話中となり（Ｓ１１）、受信制御部３により、ユーザデータのみが出力部８を通してインターネット９へ送信される。

【００２５】ステップ５で発信電話番号が存在しないと判定したときには、公衆電話回線１上に発信電話番号が通知されなかったことを示すエラー信号を送出し（Ｓ１２）、識別手順をクリアする（Ｓ１３）。

【００２６】ステップ７で発信電話番号と一致する登録電話番号が無いと判定したときには、公衆電話回線１上に登録電話番号不一致を示すエラー信号を送出し（Ｓ１４）、接続手順をクリアする（Ｓ１３）。

【００２７】ステップ９で受信端末起動信号が無かったと判定したときには、個人認証が行えないため、エラー処理を行ってエラーであったことを表示し（Ｓ１５）、接続手順をクリアする（Ｓ１３）。

【００２８】ステップ２で呼出信号を受信したと判定したときには、受信端末起動信号があったか否かを判定し（Ｓ９）、受信端末起動信号を無かったと判定したときには、エラー処理を行い（Ｓ１５）、接続手順をクリアする（Ｓ１３）。受信端末起動信号があったと判定したときには、二次応答信号を送信し（Ｓ１０）、通話中となる（Ｓ１１）。

【００２９】なお、本実施の形態では、インターネット接続業者のアクセスポイント装置１０と端末（電話機）１１との間を接続する媒体を通常コードで接続された公衆電話回線１で構成した例で説明したが、その他の接続形態でも実施可能であり、また端末として携帯電話機やＰＨＳ（パーソナル・ハンディホン・システム）を使用しても実施可能である。

【００３０】以上のように本実施の形態によれば、発信電話番号検出部５で解読され検出された発信電話番号と登録利用者の電話番号（登録電話番号）との照合を個人認証部６で行い、検出された発信電話番号と一致する登録電話番号が存在する場合には通話に移行するようにしたので、ユーザＩＤ、パスワードを利用者が管理しなくても、電話利用者が正当な利用者か否かの判定を個人認証部６で行うことができる。

【００３１】

【発明の効果】以上のように本発明のインターネット電話システムによれば、アクセスポイント装置は、電話回線とのインタフェースである網インタフェース部と、電話回線を制御するための受信制御部と、ユーザデータとシステムデータとを分離するユーザデータ検出部と、発信電話番号を検出して発信者の電話番号を認識する発信電話番号検出部と、利用者本人からの電話接続であるか否かを判定する個人認証部と、インターネットとのインタフェースである出力部とを有することにより、検出された発信電話番号と登録電話番号との照合を行い、検出された発信電話番号と一致する登録電話番号が存在するか否か判定することができるので、ユーザＩＤ、パスワードを利用者が管理しなくても、正当な利用者が発信したか否かを判定することができるという有利な効果が得られる。

【図面の簡単な説明】

【図１】本発明の実施の形態１によるインターネット電話システムを構成するアクセスポイント装置を示すブロック図

【図２】本発明の実施の形態１によるインターネット電話システムを示す構成図

【図３】図１のアクセスポイント装置の動作を示すフローチャート

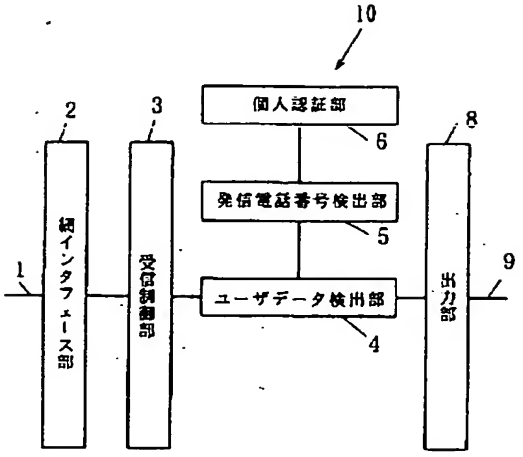
【図４】従来のインターネット電話システムにおけるアクセスポイント装置を示すブロック図

【図５】従来のアクセスポイント装置を用いたインターネット電話システムを示す構成図

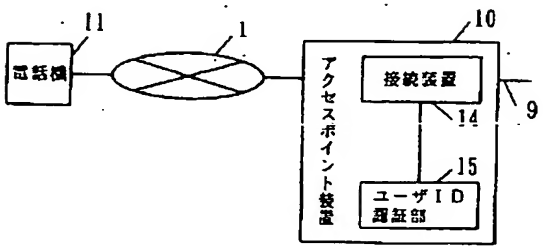
【符号の説明】

1　公衆電話回線
2　網インタフェース部
3　受信制御部
4　ユーザデータ検出部
5　発信電話番号検出部
6　個人認証部
8　出力部
9　インターネット
１０　アクセスポイント装置
１１　電話機
１４　接続装置
１５　ユーザＩＤ認証部

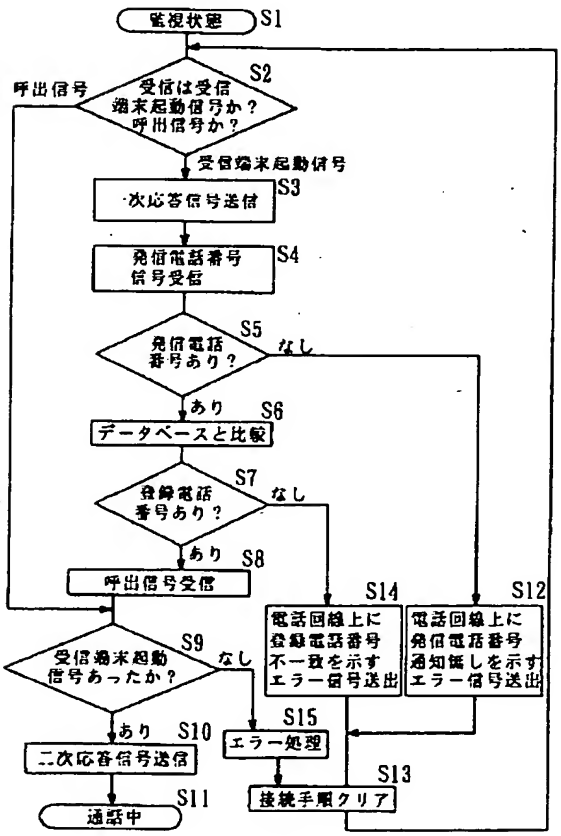
【図１】




【図２】

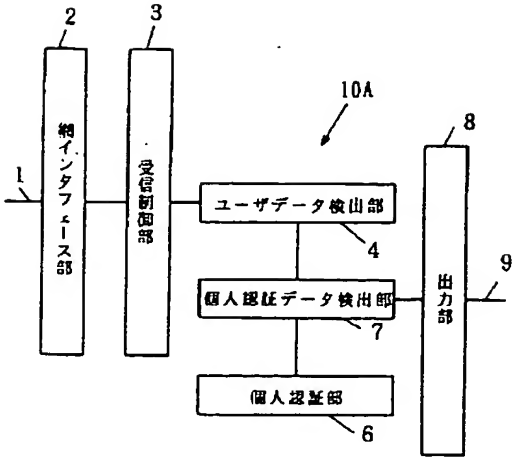



【図３】




1　公衆電話回線
9　インターネット
10　アクセスポイント装置

【図４】



【図５】